

1128  
B.Sc. (Hons.) Bio-Informatics  
Fifth Semester  
BIN-5004: Genetics and Evolution

Time allowed: 3 Hours

Max. Marks: 60

**NOTE:** Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

I. Answer briefly:-

- a) Penetrance
- b) Back cross
- c) Law of segregation
- d) Chromosomal theory of inheritance
- e) Lethal genes
- f) Euchromatin
- g) Allelic frequency
- h) Suppressive mutation

(8x1½)

**UNIT – I**

II. a) What are the organisms suitable for genetic experimentation and their genetic significance?

b) What are duplicate genes? Site an example. (6,6)

III. What is epistasis? Discuss its types along with examples. (12)

IV. a) Discuss the genetic organization of Eukaryotes

b) State the law of assortment along with suitable examples. (6,6)

**UNIT – II**

V. Write a note on:-

a) Lamp brush chromosome

b) Chromosome Banding pattern

(6,6)

VI. a) Discuss the different chromosomal mutation.

b) What is Ames test?

(9,3)

VII. What is Hardy Weinberg law? What are assumption and implications of the law? (12)

x-x-x